

REMARKS

I. STATUS OF THE CLAIMS

Applicant has amended claim 1 to define the claimed refrigerating machine oil with greater particularity. The claim amendment is supported by the original claims and the as-filed specification, e.g., paragraph [0048]. No new matter has been introduced.

Claims 1 and 4-12 are pending and under examination.

II. RESPONSE TO THE § 103(a) REJECTION

Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1 and 4-12 over U.S. Patent No. 6,736,991 to Cohen et al. (“Cohen”) in view of U.S. Patent No. 6,231,782 to Shimomura et al. (“Shimomura”).

A. Claims 1 and 4-7

Claim 1, as amended, recites, among other things, “[a] phosphorus-based additive other than the phosphorothionate [being] at least one phosphorus compound selected from acidic phosphoric acid esters, amine salts of acidic phosphoric acid esters, chlorinated phosphoric acid esters, and phosphorous acid esters.”

The combination of Cohen and Shimomura neither discloses nor suggests at least the above-quoted features of amended claim 1. The Office Action relied on Cohen at column 7, line 3-5, and asserted that Cohen purportedly discloses that “alkyl-aryl or tri-aryl phosphates . . . [that are] read on the list of phosphorus compounds recited in instant claim 1.” Office Action, page 5, lines 6-14. The alkyl-aryl or tri-aryl phosphates as disclosed in Cohen are not one of acidic phosphoric acid esters, amine salts of acidic phosphoric acid esters, chlorinated phosphoric acid esters, and phosphorus acid esters,

as recited in amended claim 1. Thus, Cohen does not disclose or suggest any of the above-quoted group of phosphorus-based additives other than the phosphorothionate.

Shimomura also neither discloses nor suggests the above-quoted features of amended claim 1, missing from Cohen.

Accordingly, amended claim 1 is allowable over Cohen or Shimomura, alone or in combination. Claims 4-7 depend from claim 1 and incorporates all of the features of amended claim 1. Claims 4-7 therefore are allowable for at least the same reasons as those set forth above for amended claim 1.

B. Claims 8-12

Regarding claim 8, Applicant respectfully submits that the refrigerating machine oil as recited in claim 8 shows the unexpected beneficial results that were not predicted in the cited references. See *also* Reply to Office Action filed May 13, 2010, pages 6-8 and the Declaration under 37 C.F.R. § 1.132 of Yuji SHIMOMURA (“Rule 132 Declaration”) filed with the November 16, 2009 Reply to Office Action.

Applicant further provides the following remarks in response to the Office Action’s assertions made in the “Response to Arguments” section, regarding the unexpected beneficial results and the cited references.

The Office Action asserted that “[u]nexpected results have not been demonstrated also because example 4-16 merely demonstrated that the higher concentration of additives the lower the coefficient of friction. For example, example oil 13 - has the B1 and C1 additives in the highest concentration and has the lowest coefficient of friction. The same is true for example oil 14 especially when compared to

example oils 15 and 16. It is not unexpected to get better results when there is a higher concentration of additives.” Office Action, page 6, line 21 to page 7, line 4.

Applicant respectfully disagrees.

Applicant points out that C1 and C2 are oiliness agents and can contribute to improvement of friction whereas B1 (an epoxy compound) is an optional additive used for improvement of stability, not of friction. In addition, the upper limit of the amount of the phosphorothionate and the phosphorus-based additive other than said phosphorothionate is limited to 2.0% by mass in order to avoid using excessive amounts for economical reasons.

Further, Examples 15 and 16 should be considered as comparative examples because Examples 15 and 16 each contains a phosphorothionate or a phosphorous-based additive other than said phosphorothionate, but does not contain both phosphorothionate and phosphorous-based additive other than said phosphorothionate, as presently claimed. Examples 4-14, comprising both phosphorothionate and phosphorous-based additive other than said phosphorothionate showed marked improvement of friction property (low average coefficient of friction) as compared to comparative Examples 15 and 16.

The Office Action asserted that “Cohen in column 3 clearly states that the mineral oils are filtered to reduce sulfur and nitrogen contents and the respective concentrations of both sulfur and nitrogen have been reduced to level of 0.05% (500 ppm) or lower which clearly overlaps and encompasses the range as recited in claim 1. The full disclosure must be taken into account and not simply the example oils from Cohen.” Office Action, page 7, line 21 to page 8, line 4.

Applicant respectfully does not concede this assertion. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. M.P.E.P. § 2141.02 (VI). The example oils disclosed in Cohen have a sulfur content of 200 ppm or 300 ppm and %C_A of 14 or 12. Cohen, col. 3, Table 1. If these oils are filtered to reduce sulfur and nitrogen contents and the respective concentrations of both sulfur and nitrogen have been reduced to level of 0.05% (500 ppm) or lower, %C_A must also be reduced to be out of the claimed range of 8-15 (perhaps down to 0), as previously explained in May 13, 2010 Reply, page 9; see also Rule 132 Declaration (showing the similar results of Base Oil 4 of Shimomura).

For at least the above reasons, claim 8 is allowable over Cohen in view of Shimomura. Claims 9-12 depend from claim 8 and incorporate all of the features of claim 8. Claims 9-12 also are allowable for at least the same reasons as set forth above for claim 8.

III. CONCLUSION

In view of the foregoing remarks, Applicant respectfully requests reconsideration of this application, withdrawal of the rejections, and timely allowance of the pending claims.

Should the Examiner have any comments or questions, please contact the Applicant's representative at (202)408-4457.

Please grant any extensions of time required to enter this response and charge
any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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